REMARKS

Claims 1, 15, 16 and 18-22 are pending in the subject application. By this Amendment, claims 1, 15, 16 and 18-22 have been amended to replace the phrase "antisense oligonucleotide" with the phrase "antisense nucleic acid". Support for the amendments to claims 1, 15, 16 and 18-22 can be found in the specification as originally filed at, inter alia, page 16, lines 16-19; page 83, lines 7 to 16 and Fig. 13. Applicants maintain that the amendments to the claims raise no issue of new matter and respectfully request their entry. After entry of this Amendment, claims 1, 15, 16 and 18-22 will be pending and under examination.

Provisional Obviousness-Type Double Patenting Rejection

In the October 12, 2007 Office Action, the Examiner provisionally rejected claims 1, 15, 16 and 18-22 under the judicially created doctrine of obviousness-type double patenting as allegedly unpatentable over claims 27, 39 and 40 of copending U.S. Application No. 10/712,642.

Applicants understand that this is only a provisional rejection, and will consider filing a Terminal Disclaimer if necessary should the rejection become non-provisional.

Claims Rejected Under 35 U.S.C. §112, Second Paragraph

The Examiner rejected the pending claims as indefinite for allegedly being unclear as to whether the claims "read on oligonucleotides (e.g. 15-100 nucleobases in length) or full

length antisense constructs."

In response, applicants respectfully traverse the Examiner's rejection. However, in order to expedite prosecution and without conceding the correctness of the Examiner's position, applicants have hereinabove amended the claims to recite the phrase "antisense nucleic acid". Accordingly, applicants respectfully request reconsideration and withdrawal of this ground of rejection.

Rejection Under 35 U.S.C. §102(e)

The Examiner rejected claims 1, 15, 16 and 18 as allegedly anticipated by Housman et al. (U.S. Patent No. 6,200,754, filed March 19, 1998). The Examiner asserted that Housman et al. teaches nucleic acid constructs comprising an expression vector comprising a promoter operably linked to antisense and ribozymal oligonucleotides complementary to a nucleic acid encoding a human DNA dependent protein kinase subunit which includes Ku70 and Ku80.

In response, applicants respectfully traverse the Examiner's rejection.

For Housman et al. to anticipate the invention as claimed it must teach all the elements of the invention as claimed. Moreover, as recited in M.P.E.P §2131, for an anticipation rejection to be proper "[t]he *identical invention* must be shown in as complete detail as is contained in the ... claim." Richardson v. Suzuki Motor Co., 868 F.2d 1226, 1236, 9 USPQ2d

1913, 1920 (Fed. Cir. 1989). The elements must be arranged as required by the claim" (emphasis added). Applicant notes that Housman et al. does not teach introducing into a cell "*in vitro* an antisense nucleic acid that specifically hybridizes to a nucleic acid encoding a human DNA-dependent protein kinase subunit so as to prevent expression of the human DNA-dependent protein kinase subunit wherein ... *the antisense nucleic acid is enclosed in a liposome prior to introduction into the cell*" and wherein "*the antisense nucleic acid has the sequence of a human Ku70 cDNA in the antisense orientation or a human Ku80 cDNA in the antisense orientation*" (emphasis added) as recited in claim 1 as amended hereinabove.

In addition, with regard to claim 15 as amended hereinabove, Housman et al. does not teach an "*antisense nucleic acid which has the sequence of a human Ku70 cDNA in the antisense orientation* and which specifically hybridizes to a nucleic acid encoding a human DNA-dependent protein kinase subunit, wherein the human DNA-dependent protein kinase subunit is Ku70" (emphasis added). Accordingly, applicants respectfully request reconsideration and withdrawal of this ground of rejection.

Rejections Under 35 U.S.C. §103(a)

The Examiner rejected claims 1, 15, 16 and 18-22 as allegedly obvious over Reeves et al. (JBC 264(9):5047-5052 (1989)), Anderson et al. (TIBS 18:433-437, (1993)), Takiguchi et al. (Genomics 35:129-135 (1996)), Milner et al. (Nat. Biotech. 15:537-541 (1997)) and in view of Au-Young et al. (U.S. 5,773,580) and Reed et al. (PNAS 87:3660-3664 (1990)).

In response, applicants respectfully traverse the Examiner's rejection. Applicants note that nowhere in Reeves et al. is an antisense nucleic acid which *has the sequence of a human Ku70 cDNA in the antisense orientation* (as recited in claim 1 and 15) taught or suggested. The remaining cited references in combination with Reeves et al. do not cure this deficiency. With regard to the Examiner's statement that Reed et al. "teach full length antisense in appropriate expression vectors" applicants note that Reed et al. disclose an antisense for *BCL-2*. Applicants note that this is not predictive of an antisense nucleic acid having the sequence of a *human Ku70 cDNA* in the antisense orientation or a *human Ku80 cDNA* in the antisense orientation. Regarding predictability of antisense, Agrawal et al. (Mol. Med. Today, 6:72-81) which was cited by the Examiner in the August 15, 2005 Office Action issued in connection with the above identified application, state at page 80 that one should "study each … oligonucleotide in its own context, and relevant cell line, without generalizing the results for every oligonucleotide." Accordingly, applicants maintain that the invention as claimed is not obvious over Reeves et al. in combination with the remaining cited prior art, and respectfully request reconsideration and withdrawal of this ground of rejection.

Applicants further note that the method as recited in claim 1 requires that the antisense nucleic acid be enclosed in a liposome. Reeves et al. does not teach or suggest such *in vitro* liposome administration of the antisense oligonucleotide. The remaining cited references in combination with Reeves et al. do not cure this deficiency. Accordingly, applicants respectfully

request that the Examiner reconsider and withdraw this ground of rejection.

Applicants further note that Milner et al., as cited by the Examiner, discusses that the efficacy of an antisense must be tested, thus indicating that the efficacy of any one antisense molecule is not predictable. Milner states that "surprisingly few [tested] oligonucleotides gave significant heteroduplex yield", (see Abstract). Furthermore, Milner et al. discuss the "variable success that is commonly experienced in the choice of antisense oligonucleotides", (see Abstract). Applicants maintain that the antisense nucleic acid as recited in claim 15 is not obvious as its efficacy was not predictable in light of the cited prior art. However, applicants have shown it to work as an antisense (see page 83, lines 7 to 16). In addition, the method of claim 1, which recites the antisense nucleic acid, is not obvious as the efficacy of the particular antisense nucleic acid was not predictable in light of the cited prior art. Accordingly, applicants maintain that the invention as claimed is not obvious over the cited prior art and respectfully request that the Examiner reconsider and withdraw this ground of rejection.